hope COMMUNITY CAPITAL

City of Milwaukee

Net-Zero Energy Home Financing Plan

City Of Milwaukee Environmental Collaboration Office (ECO)

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Acknowledgments
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About Hope Community Capital
Since 2016, Hope Community Capital (HCC) has assisted a national base of clients in accessing, structuring, and closing diverse sources of capital. HCC provides community development advisory services to community-based projects – particularly affordable housing and community facilities located in low-income geographies – with financing, investors, and opportunities to cultivate sustainable, inclusive, and thriving communities.

HCC works to accelerate the work of organizations across the nation whose mission is to expand economic opportunity for systemically underserved people and communities. The firm has assisted projects totaling over $500M in development costs, including over 200 units of affordable housing and over 1 million square feet of community facility space serving more than 100,000 stakeholders annually.

About Rocky Mountain Institute
RMI is a nonprofit 501(c)(3) dedicated to transforming the global energy system to secure a clean, prosperous, zero-carbon future for all. With more than 400 staff, RMI works across disciplines to accelerate the clean energy transition, improve lives, and support economic growth. RMI has a 40-year history of creating industry-leading solutions in the sustainable building industry. It brings a unique combination of techno-economic expertise and whole-system thinking to accelerate new markets and create partnerships.

Through its REALIZE initiative and Advanced Building Construction Collaborative, RMI has demonstrated its commitment to advancing high-performance construction manufacturing in synergy with economic development, creating and preserving high-quality jobs, and decarbonizing the national building stock. REALIZE has received over $10M in funding from the Department of Energy and the California Energy Commission to develop new methods and technologies to bring existing buildings to zero-carbon levels of performance. RMI's findings from these research and development activities have demonstrated that the entire building sector will benefit from step changes in the way buildings are designed and constructed if industrialized construction becomes widely used.

Disclaimer
This guide provides an overview of demand-side finance for single-family affordable homeownership. It does not constitute professional tax advice or other professional financial guidance. Accordingly, it should not be used as the only source of information when making purchasing, investment, or tax decisions or when executing other binding agreements.

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Introduction

Housing is a critical piece of Milwaukee's infrastructure, impacting the economy, environmental sustainability, human health, and quality of life. The City of Milwaukee's Environmental Collaboration Office (ECO), in collaboration with other City housing agencies, aims to develop an innovative demand-side financing model for efficiently and affordably producing new net-zero energy homes[1] in the City of Milwaukee as a component of the City's forthcoming Climate and Equity Plan[2] (Plan, the Plan). This Plan addresses multiple public policy issues, including climate change; housing affordability; human health and safety, racial equity, housing aesthetics, flood resilience, neighborhood revitalization, and job creation. As the demand-side financing model is developed, the City of Milwaukee seeks to attract a housing manufacturing firm (factory) to dramatically increase the supply of affordable, net zero energy homes in Milwaukee neighborhoods.

Attracting a factory and achieving other public policy goals requires access to finance for the housing developers and the ultimate homeowners. Based upon the assumption that traditional mortgage financing alone is not enough to cover the cost of new homes in targeted Milwaukee neighborhoods, an innovative, flexible, patient, and accessible financing structure is required.

This report contributes to a better understanding of the degree to which the City of Milwaukee can facilitate equitable and affordable mortgages and other financial products and services to assist prospective homeowners, specifically for the development of single-family housing affordable to households earning less than 80% of the Milwaukee County Median Income.

Notes on Terminology

This report adopts the term low- and moderate-income (LMI) for the sake of consistency with government publications and datasets pertaining to affordable housing finance. For purposes of this report, LMI means households earning, depending on the household size, 60-80% of the County Median Income (CMI) of the City of Milwaukee.

Addressing Green Gentrification

The City of Milwaukee recognizes that in proposing new, net zero housing located on vacant lots in low-income communities, there exists a concern about green gentrification[3]. This City of Milwaukee initiative addresses this threat by providing very specific financing for LMI households, who often face barriers to accessing traditional homeownership financing and may be excluded from homeownership as gentrification increases housing prices rendering homeownership unattainable in some places within the City.

Key Insights

Milwaukee Housing Stock

The Community Development Alliance has identified a significant need for single-family affordable homes for sale at the $110,000-$125,000 range, which meets the need for households earning about $50,000 per year (about 60% CMI of the City of Milwaukee). The cost to build a net zero home is estimated to be between $200,000-$220,000, creating a gap of up to $110,000 between what the target household can pay and what it costs to build. While net zero Advanced Building Construction methods may cost 25% less to construct than traditional construction, an affordability gap remains for LMI households. This report proposes a structure using NMTC and other gap-filling resources to close the projected $110,000 gap of less than $15,000.

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[1] *https://city.milwaukee.gov/Me2/Homeowners/Net-Zero-Energy-Housing*

[2] *https://city.milwaukee.gov/climate/Climate-Plan*

[3] *Green gentrification refers to the concept that the aggregate effect of "green resilient infrastructure" (GRI) intervention leads to worsened social and environmental vulnerabilities for marginalized groups.*

Rising Interest Rates

In the current home mortgage lending environment, single-family mortgage rates continue to increase, reducing the amount of mortgage available for principal repayment of the homes. Higher interest rates for mortgages will further reduce the amount low-income families can borrow due to the debt-to-income ratio restrictions from lenders.

Financing Gap

All market single-family and duplex financing models we looked at had a significant financing gap. Tax credit programs, such as New Markets Tax Credits (NMTC) or Low-Income Housing Tax Credits (LIHTC), cannot close that gap, though LIHTC scattered site lease to purchase seems to be the best at closing the gap, this is a long term, 15-year strategy. While helpful, down payment assistance programs do not reduce the projected $95,000 gap by more than $10,000. No matter the financing strategy, other funders groups would likely have to heavily subsidize the financing approach, even if a combination of federal and state incentives are used for financing.

There is an opportunity for a lending partner to offer a new "Net Zero Mortgage" option which allows for a higher housing cost-to-income ratio as the ongoing energy costs will be significantly lower, reducing the household's overall housing cost.

Climate Goals

The City's Climate goal is to be net zero on Greenhouse gas emissions by 2050. Any new homes built should be net zero and consistent with that goal. We assume that the proposed net zero homes[4] can qualify for federal incentives for solar and electrification, and monthly utility expenses will be lower.

Partnerships

It is essential that the roles of the manufacturer, developer, financial institution (lender), homeowner counselor, and homeowner are aware and able to take part in a complex proposed capital stack to reduce the gap between the cost of the house and the maximum homeowner mortgage.

About this Report

The goal of this report is to provide a demand-side financing model to support the ultimate environmental outcome of this project: to deliver better indoor environmental quality in Milwaukee's housing stock and reduce the City's greenhouse gas emissions and other air pollution from the combustion of fossil fuels to heat and power homes. The City aims to build a new, large supply of housing that is free of mold, lead, and dangerous substances in the home. The scale of this new inventory of climate-ready housing should be at a scale large enough to support a new ABC factory in Milwaukee. The proposed financing model offers the City options for facilitating the ultimate financing of the construction and sale of affordable, net-zero homes to low and moderate-income households.

The preliminary outcome of this project is to have a functioning financial loan instrument to allow a substantial number of low-to-moderate income households to affordably purchase a new, healthy, net zero energy home in the City of Milwaukee. The financing plan will be successful if it achieves alignment among and between 1) the sale price of the net zero energy homes produced in the factory; 2) home buyers' ability and willingness to purchase one of the homes with the aid of the financial tool to be developed through this project; and 3) the prevailing market rate of housing in the target neighborhoods.

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[4] The City of Milwaukee's sustainability plan, "ReFresh Milwaukee" includes investment in housing as a priority strategy, noting the opportunity for energy-efficiency programs to renovate deteriorating housing stock. (Community Development Grants Administration, 2020)

This report is an implementation plan for demand-side financing that will allow low-to-moderate-income households to purchase a net zero energy home. After analyzing numerous financing options, we have outlined a financing plan and capital stack to best deliver new, energy-efficient modular/panelized homes on vacant, scattered site lots in Milwaukee's neighborhoods. This Plan is intended for the City of Milwaukee and its collaborators to facilitate single-family, for-sale financing that combines:

1. Financing strategies for the housing developer (including readily available tax credits, and existing city, state, and federal subsidies for affordable housing)
2. Innovative home buyer financing, resulting in affordable mortgages to help prospective homeowners.

This project seeks to reduce housing costs and increase accessibility for low- and moderate-income households to net zero, affordable for-sale homes while creating high-quality, local, green manufacturing jobs via the production of ABC homes. Through the larger project, of which the demand-side finance strategy is a component, the City will design and scale the production of new affordable, durable, and climate-ready modular or panelized housing, built in Milwaukee. The project seeks to establish a new housing manufacturing facility through a public-private partnership to create year-round, healthy jobs. This new take on affordable housing will enable the City to match high-need communities with a 21st-century home to tackle climate change, while kick-starting economic recovery and inclusive growth. The housing will be designed to minimize cost, increase product efficiencies, and above all, create affordable, energy-efficient housing to dramatically reduce greenhouse gas emissions from the built environment

This project supports United States Environmental Protection Agency's goal to deliver a cleaner, safer, and healthier environment for all Americans and future generations by carrying out the Agency's core mission [5]. This project will help deliver a cleaner, healthier environment for Americans and future generations and supports US EPA's mission to protect human health and the environment. The City of Milwaukee is developing a plan to bring new healthy homes to hundreds of our residents every year.

The long-term outcomes of the larger project[6] focus on creating equity by providing income opportunities (jobs) AND opportunities to own high-quality, healthy housing that is affordable to own and operate by low-income Milwaukeeans. The City will monitor the following annual metrics over the next five years:

- Increased supply of affordable housing with a maximum factory potential capacity of 100 units/year (offered through the Housing Authority, tax credit housing, and low-cost direct sales).
- >90% decrease in annual resident utility bills.
- >20% increase in housing ownership opportunities for residents. Fifty (50) new jobs annually (created by the entire delivery supply chain).
- % GHG emissions reductions from the housing sector.
- Positive resident housing satisfaction ratings (comfort, livability, function).

The short-term outcomes of the project focus on demonstrating the idea's feasibility so that it is not a one-off project but rather something with a positive long-term impact on Milwaukee residents.

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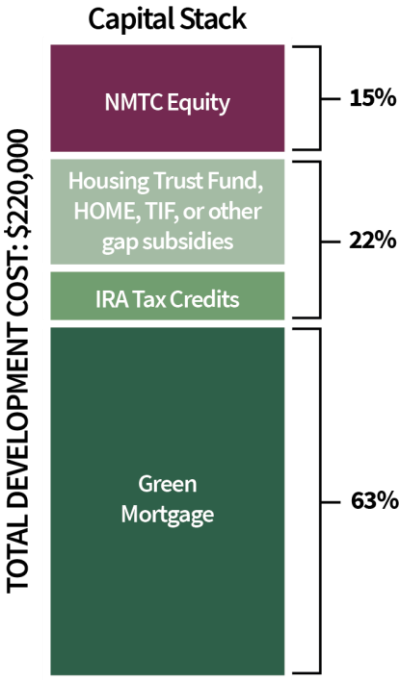
[5] The EPA's FY 2018-2022 strategic plan supports states, localities, and federally-recognized Indian tribes by streamlining programs and processes, reducing duplication of effort, providing greater transparency and listening opportunities, and enabling the Agency to focus on its core mission. (United States Environmental Protection Agency, 2019)

[6] https://city.milwaukee.gov/Me2/Homeowners/Net-Zero-Energy-Housing

Summary Recommendations

Based on a thorough study of the various financing options to provide net zero, ABC, and for-sale housing affordable to LMI households, we recommend the following:

1. Work with a net-zero manufacturer that will access and pass along, dollar for dollar, any energy tax credits or rebates as a direct reduction of the sale of the home to the developer.
2. Identify mission-based developers throughout the City with the skills, knowledge, and financial capacity to undertake the development of net-zero, affordable homes on vacant lots throughout the City.
3. The developers should be able to access New Markets Tax Credit-facilitated financing to fund the development of the homes. The developer should access various other public and private funds as leverage for the New Markets Tax Credit-facilitated financing.
4. The developer or an affiliate of the developer should provide homebuyer services, including pre- and post-purchase counseling.
5. The developer may choose to finance the homes for LMI homebuyers, or a financial institution, bank, credit union, Community Development Financial Institution, or other unregulated impact lenders such as WHEDA or a Foundation may provide financing. The financier would offer first mortgage financing, including down-payment assistance and pre- / post-purchase counseling. The first mortgage financing provides higher loan-to-value considerations and debt-to-income ratios, given the reduction in energy costs.
6. The homeowner can purchase the house at a max of $125,000 given the variety of subsidies to reduce the purchase price, including NMTC equity and public and private grant sources such as CDBG.



Project Description, Market & Policy Context

The strategy outlined in this report complements other City of Milwaukee efforts to retrofit existing housing and provide city financial support for larger multi-family housing. The guiding philosophy of these efforts has been and continues to encourage economic growth, bolstered by government leadership, and supported by a combination of private and public financial support to achieve economic and social goals. Specifically, this report presents a financing model for affordable infill housing in Milwaukee's LMI neighborhoods, with housing components fabricated off-site and efficiently assembled on infill sites throughout the City. The demand-side financing model presented in this report seeks to provide a financing structure to close the gap between the cost of producing off-site housing and the amount of mortgage an LMI household can afford.

Housing & Equity Challenges in the City of Milwaukee

Milwaukee, like many cities, struggles with a range of interrelated social, economic, and environmental problems that afflict city residents. The city has suffered a 40% decline in manufacturing jobs since the 1970s, reducing accessible and quality job opportunities for working-class Milwaukeeans, specifically people of color. Many neighborhoods struggle with a lack of family-supporting jobs, deteriorating housing stock, high household energy burdens, and exposure to lead and other environmental hazards in homes. Homeownership is elusive for many families because they lack the incomes to own, maintain, and renovate homes.

COVID-19 has only accelerated housing insecurity, and city homeownership has declined by 14% in the past 15 years. Just 37% of housing units are owner-occupied (including multi-family), with the African American homeownership rate half that of white households. Moreover, the energy cost burden is disproportionate for lower-income neighborhoods (<50% of CMI are 27% more energy-cost burdened). Milwaukee's housing stock is aging, the majority of which is not climate resilient (e.g., basements and sewer system issues).

According to the 2010 Citywide Policy Plan[7], over 42% of the housing in the city was built before 1940 and is located in the central city. Another 32% of the city's housing was built between 1940 and 1959, most located in the northwest and far south sides of the city. 18% of Milwaukee's housing was built between 1960 and 1979 and tends to be located on the periphery of the city. The remaining 8% of the city's housing units, built since 1980, have developed in the central city, in and around downtown, and on the far northwest side of the city. It wasn't until the 1970s the first building energy conservation standards were developed as part of the Energy Policy and Conservation Act (EPCA) in response to the 1973 oil crisis. Some buildings have been repurposed, some were upgraded to be more energy efficient, and others deteriorated due to poor or lack of maintenance.

As of February 2022, Milwaukee has approximately 2,000 vacant lots in many of its neighborhoods' where dilapidated houses were razed. The cost to build new stick-built homes on vacant lots exceeds the amount of money that banks are willing to lend due, in part, to low surrounding property values. Milwaukee is seeking tools to simultaneously bring down the cost of housing, significantly increase the supply of net zero housing, and create family-supporting jobs paying more than $40,000 per year for people of color. Higher skill and more experienced green jobs can pay $60,000+ annually, opening pathways for home ownership.

The cost to construct traditional stick-built, new construction homes exceeds what low- and moderate-income households can afford. Concomitantly, new construction on scattered site lots is not attractive to homebuilders requiring contiguous parcels on developable land. Innovative construction techniques such as Advanced Building Construction (ABC), combined with low-cost and flexible homeowner financing and low/no-cost contribution of developable sites, the City can achieve its climate goals while addressing the severe shortage of affordable, for-sale housing.

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[7] *https://city.milwaukee.gov/ImageLibrary/Groups/cityDCD/planning/plans/Citywide/plan/Citywide.pdf (Department of City Development, 2010)*

City of Milwaukee's Net Zero Energy Housing Strategy

The Environmental Collaboration Office (ECO), in collaboration with other City housing agencies, aims to develop a new model for efficiently and affordably producing new net zero energy homes in the City of Milwaukee as a part of the forthcoming Climate and Equity Plan which aims to address multiple public policy issues:

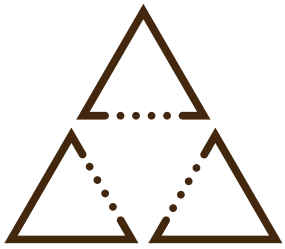
- Climate change
- Housing affordability
- Human health and safety
- Racial equity
- Housing aesthetics
- Flood resilience
- Neighborhood revitalization
- Job creation

These homes will significantly contribute to reducing overall carbon in Milwaukee and a key strategy in meeting the City's climate action targets.

Key Terms

Advanced Building Construction (ABC): Innovative, low-carbon, highly efficient new construction and renovation solutions that are faster to deploy, high quality, affordable, and appealing to users and owners. Recent advancements in manufacturing, fabrication, materials, and logistics hold the potential to transform the U.S. construction industry. The National Institute of Building Sciences' Off-Site Construction Council[8] highlights several productivity benefits of such approaches, including improvements in scheduling, price, quality, and safety. While prefabrication and other off-site construction methods have existed in the United States for decades, venture capital firms and leading technology companies have recently started to invest heavily in startups developing off-site "disruptive innovations" that shift construction from the building site to the factory. Given these trends, future construction techniques will likely differ from current methods[9].

Figure 1 – The Triad of Benefits in Advanced Building Construction



Economic Development

- Green Jobs
- Localized Labor Force
- Workforce Development
- Healthy Jobs
- Less Subject to Global Manufacturing Pressures

Equitable Housing

- Lower Development Costs
- Rapid Deployment
- Healthy Housing
- Lower Maintenance & Energy Costs

Zero Carbon

- New Construction
- Community Scale
- Energy Retrofits

Net Zero Housing: Follows the U.S. Department of Energy's definition[10] of a Zero Energy Building: An energy-efficient building where, on a source energy basis, the actual annual delivered energy is less than or equal to the on-site renewable exported energy. On-site renewable energy includes any renewable energy collected and generated within the site boundary used for building energy. The excess renewable energy could be exported outside the site boundary. The renewable energy

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[8] National Institute for Building Sciences members are made up of individuals, public and private sector organizations, non-profits and local, state and federal government officials. (National Institute of Building Sciences, n.d.)

[9] Integrating Improved Construction Productivity and Building Energy Performance (Office of Energy Efficiency & Renewable Energy, n.d.)

[10] A zero energy building (ZEB) produces enough renewable energy to meet its own annual energy consumption requirements, thereby reducing the use of non-renewable energy in the building sector. (The National Institute of Building Sciences, 2015)

certificates (RECs) associated with renewable energy must be retained or retired by the building owner/lessee to be claimed as renewable energy[11].

Socioeconomic and Demographic Change: This report discusses low- and moderate-income households based on current demographic distributions, as long-term and robust projections for local demographic changes are currently unavailable. However, Milwaukee's demographics will change in the future. National-scale demographic projections from the U.S. Census suggest the U.S. population will grow older and more diverse in the coming decades.

Roles:

City of Milwaukee[12] – the City will provide leadership, pipeline aggregation, and incentives to offset the persistent gap in funding sources. It is essential for the City to integrate public engagement as it evaluates financing models, codes, permitting, and assistance with land and space usage to improve the housing stock at a pace and in a manner that does not lead to the adverse impacts of gentrification, but rather improves environmental justice.

Manufacturer – incenting an ABC manufacturer to locate in Milwaukee can guarantee the production of the City pipeline to meet energy standards and create high-quality, healthy, and local jobs. It will be important for the manufacturer to commit to Integrated Design Process on housing designs incorporating community input. Additionally, factory financing incentives can contribute to offset in-home costs. There is also an opportunity to utilize materials from the City of Milwaukee's housing deconstruction program

Housing Developer – Creating the Manufacturer/G.C. partnership will require a process to ensure the City can attract a high-quality, aligned organization that meets the specific needs of this social venture. This process will involve soliciting proposals, with an initial step of engaging them through direct outreach. The specific activities are outlined in the Implementation Roadmap section. Potential developer partners should ideally meet the following criteria:

1. Aligned mission and culture regarding economic development, employing local (within city limits) labor, at or above the living wage, with healthy working conditions, training, and benefits. Factory workers should be paid a wage sufficient for them to afford the product they are building (at least the base model home.) Affordable housing with guaranteed pricing to meet these requirements.
2. Zero energy and zero energy ready standards for factory and building designs, along with architecture to meet local planning guidelines.
3. Proven equity and debt financing capacity to fund the factory with a 3-year ramp.
4. Experienced and innovative leadership team at the corporate and local level.
5. Qualified pipeline that includes entitled and financed projects in the region.
6. Off-site experience designing and building single-family projects.

Housing Counseling Agency – It is anticipated that all homeowners will have access to pre- and post-purchase counseling provided by a Housing Counseling Agency, either at the Developer organization or an affiliate collaborator, that is a HUD-certified housing counseling agency.

Homeowner –Homeowners earn between 60-80% CMI of the County and have access to pre- and post-purchase counseling.

Financial Institution – Provides mortgage financing to qualified homeowners collateralized by the net zero home.

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[11] *The federal statute the Federal Trade Commission Green Guides 16 C.F.R. § 260.15(d) www.govinfo.gov*

[12] *ECO Milwaukee's Urban Equity, Sustainability, and Economic Development Strategy https://city.milwaukee.gov/ImageLibrary/Groups/cityGreenTeam/documents/Off-siteConstructionBusinessCase-V2.pdf*

Approach

The City of Milwaukee's Goals for Affordable Homeownership

This report intends to provide tools to establish more socially just financing practices to increase low- and moderate-income homeownership using ABC techniques within disinvested neighborhoods throughout Milwaukee. The approach for the demand-side plan of finance is to determine the optimal financing structure to provide low-cost, affordable mortgage financing to low- and moderate-income (LMI) homeowners to purchase net zero, ABC housing in disinvested neighborhoods in Milwaukee.

Assumptions

The following assumptions were made while evaluating various models for demand-side financing:

1. Total development cost is not to exceed $220,000. This number considers fluctuations driven by future market conditions.
2. Housing is affordable to households of four (4) earning not more than 80% of the County Median Income for Milwaukee County, 2022[13].
3. Mortgages to homeowners are provided at current market rates. The terms of the "green mortgage" recognize potential flexibility from lenders on the loan to value of the home.
4. Homeowners have access to free pre- and post-purchase homeownership counseling.
5. Finished homes are valued at 90% or higher of the "cost to construct" by lenders.
6. All homes are new construction using the ABC building method.
7. City lots are provided for free and are considered "developable" lots at the time of conveyance to developer.
8. Energy costs for the homes assume the homes are built to the U.S. Department of Energy's Zero Energy Ready Homes standard[14].
9. Property tax assumptions are based on the assessed value multiplied by the tax rate.

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[13] 2022 HUD Milwaukee County 80% Median Income Limit for family of four is $75,500. (Program Parameters and Research Division, HUD, 2022)

[14] A DOE Zero Energy Ready Home is a high-performance home that is so energy efficient that a renewable energy system could offset most or all the home's annual energy use. Each DOE Zero Energy Ready Home meets rigorous efficiency and performance criteria found in the DOE Zero Energy Ready Home National Program Requirements.

Financing Options

The funding strategy will involve multiple funding tiers for the factory/R&D (Supply side), the housing (Demand side), and the overall program administration. The philosophy is to use strategies to streamline costs and attract private funding first, then deploy public funding for both the Supply and Demand sides of the program. Some initial funding targets are below drawn from New Markets Tax Credit financing, credits, and rebates described in the Inflation Reduction Act (H.R. 5376, 117th Cong., 2022), and other public gap financing sources for LMI homeowners. Below is a summary of the programs reviewed. The following sections describe the optimal structure for the Milwaukee market, followed by recommended implementation steps.

CDFI Fund Programs

The Community Development Financial Institutions Fund (CDFI Fund) is important in generating economic growth and opportunity in some of our nation's most distressed communities. By offering tailored resources and innovative programs that invest federal dollars alongside private sector capital, the CDFI Fund serves mission-driven financial institutions that take a market-based approach to support economically disadvantaged communities. These mission-driven organizations are encouraged to apply for CDFI Certification and participate in CDFI Fund programs that inject new sources of capital into neighborhoods that lack access to financing.

New Markets Tax Credits (NMTC)

The NMTC program, a congressional tax credit incentive, is meant to encourage investment in businesses and real estate projects in economically distressed communities and provide more attractive lending products to low-income community businesses than traditionally offered on the market. Financing can be for operating businesses or real estate projects, taxable or tax-exempt entities.

The NMTC is generated when a "Qualified Equity Investment" from an investor with federal tax liability (typically a large institutional investment fund) is made in one or more “Community Development Entities" (CDEs) in exchange for a portion of the NMTCs allocated to it from the CDFI Fund.

The CDEs then use the funds from such investments to make one or more loans to a Qualified Active Low-Income Community Business (QALICB) that operates in a low-income community.

Figure 2 – NMTC Terms and Definitions

NMTC Term	Definition
Community Development Entity (CDE)	Entity certified by the CDFI fund as eligible to receive an allocation of NMTCs. CDEs must have a primary mission of serving or providing investment capital for LICs or Low-Income Persons. They must also maintain accountability to residents of the LICs that they serve.
Low-Income Community (LIC)	Minimally, census tracts with a poverty rate of at least 20 percent or a median family income at or below 80 percent of the area median.
Qualified Equity Investment (QEI)	Any cash investment in a for-profit CDE that triggers the flow of NMTC benefit to the investor. The QEI must remain invested in the CDE for seven years to maintain program compliance.
Qualified Low-Income Community Investment (QLICI)	Loan and/or investment provided by a CDE to a QALICB or another CDE. Typically takes the form of debt carrying below-market interest rates and/or return expectations.
Qualified Active Low-Income Community Business (QALICB)	Businesses that are eligible to receive assistance through the NMTC program. A QALICB must meet several tests confirming that most of its activities occur in, or that it primarily serves residents of, a Low-Income Community.
Targeted Distressed Communities	LICs that show particularly high levels of poverty or economic distress.
Leverage Loan	A loan to an investment fund is combined with an investor’s equity to make up a QEI.

Most often, a leveraged loan structure is used, allowing for a larger "Qualified Equity Investment" and, ultimately, a larger loan to the QALICB borrower. The benefit of the borrower (QALICB) accomplishes multiple goals, including 1) below-market interest rates, 2) flexible terms like longer amortization and longer interest-only period, higher loan-to-value ratios, and lower origination fees, 3) it can offset higher construction costs, and 4) the benefit to the borrow, reflected in a community benefits agreement is also a benefit to the community.

The NMTC program can be paired with some other tax credit programs and funding sources – such as state and federal Historic Tax Credits – which, when coupled with the NMTC program, can create additional investment incentives for financial partners and generate additional funds for any given project.

How the NMTC Works

Projects must meet the Federal definition of a Qualified Active Low-Income Community Business (QALICB) to be eligible for NMTC financing. QALICBs are businesses that are in, or provide services to, Low- Income Communities (LICs). CDEs obtain funds to invest in QALICBs through private investors. The NMTC program provides these investors with federal income tax credits based on equity investments made in CDEs. This investment is known as a Qualified Equity Investment (QEI). Investors receive a tax credit for 39% of a QEI, which is claimed over a seven-year schedule. A QEI must be
fully invested in a CDE for seven years for an investor to meet NMTC compliance requirements.

In most cases, a QEI is linked to a specific project. Therefore, the amount of subsidy a project can receive depends upon the project's size and cost. The capital that a CDE provides to a qualifying project is known as a Qualified Low-Income Community Investment (QLICI). QLICIs are typically structured as seven-year, interest-only loans, mirroring the NMTC compliance period. To finance a project with NMTCs, a CDE must first be certified by the CDFI Fund as a valid CDE and obtain NMTC allocation authority from the CDFI Fund through a competitive application process. After a CDE receives NMTC allocation, it can sell these tax credits to an investor to generate a subsidy for the project.

Investors claim NMTCs on their federal income tax returns over seven years, totaling 39% of the amount invested as a QEI. Investors claim tax credits on the following schedule:

Year	Year 1-3	Year 4-7	Total
Tax Credit as Percent of Investment (QEI) Amount	5%	6%	39%

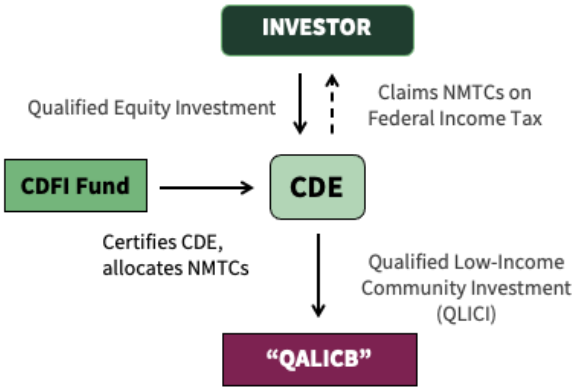
Based on this formula, an investor providing $10 million to a CDE in the form of a QEI would receive federal tax relief of $500,000 in each of Years 1 through 3 and $600,000 in each of Years 4 through 7 for a total of $3.9 million in benefit. In this example, $10 million of the CDE's NMTC Allocation would be expended.

Because the tax relief is phased over 7 years, investors typically apply a discount factor (often called "credit pricing") when determining how much up-front cash they are willing to provide to the CDE in exchange for the 39% benefit. Investors quote tax credit pricing as the amount of up-front equity they will pay into the deal per $1 of the total tax benefit. For example, if an investor pays $0.80 per $1 of tax benefit, this translates into $0.31 in project benefit per $1 of total QEI invested ($0.80 x 39%). Typical pricing ranges from $0.70 to $0.85 per $1 of NMTC benefit.

The NMTC structure differs from many other federal tax credits because the NMTC investor indirectly finances a project through the CDE. Typically, with programs such as the Low-Income Housing Tax Credit or the Historic Tax Credit, the investor receives a tax benefit for investing directly in a project. In NMTCs, the tax credit investor invests money with the CDE, not the project.

In most cases, the investor buying the New Markets Tax Credit only wishes to make a tax investment, not provide the entire financing package for the project. Since the tax credit investor only provides $0.31 of each $1 of QEI in the example above, the remaining $0.69 must come from other sources. The NMTC frequently uses the "leverage model" to combine these financing sources into a single QEI.

Figure 3 – Basic NMTC Structure



In the leverage model, the tax credit investor creates an investment fund to pool tax credit equity with other financing sources. These other sources put capital into the investment fund as debt so that the tax credit investor maintains ownership of the fund and can claim 100% of the tax credits. The loan to the investment fund is known as a leverage loan. In many cases, the leverage loan is a traditional commercial loan based on the project's underlying economics. In other cases, the source of a leverage loan comes from the project sponsor itself or other non-bank sources such as grants, capital campaign proceeds, Tax Increment Financing (TIF), owner equity, or complementary tax credit equity (i.e., Historic Tax Credits), etc. The project sponsor is often primarily responsible for arranging the sources to fund the leverage loan.

When the project pays debt service on the QLICI loan to the CDE, the CDE passes this cash up the structure to the investment fund as income. The investment fund uses this income to pay debt service to the leverage lender. The tax credit investor's return typically comes solely from claiming the tax credit on its federal income tax return. In this case, the investment fund does not pay the tax credit investor a return through the structure, nor does the $0.31 equity need to be repaid.

CDEs often structure QLICI loans in two pieces, to representing leverage loan and the NMTC equity layers at the investment fund level. The A Loan mirrors the leverage loan, while the B Loan mirrors the tax credit equity net of transaction fees. The B Loan is often sold to the project sponsor for a nominal amount after the seven-year NMTC compliance period, thus converting the NMTC equity into a permanent subsidy to the project. This net subsidy generally comprises about 20% of the total financing amount.

NMTC for Homeownership Overview:

1. Total development cost up to $220,000
2. For a $30M deal, up to an estimated 128 homes could be produced
3. Several, optimally not-for-profit developers would bring the "leverage" of the transaction, estimated at $20,640,000 in a $30,000,000 NMTC transaction. The source of this leverage varies but could include grants, cash-on-hand, HOME, CDBG, Trust Fund dollars, loans, etc. Ideally, the cost of capital for the leverage is as low as possible.
4. At least 20% of the units must be affordable to households earning ≤80% CMI to meet NMTC regulations. The City of Milwaukee will require that at least 50% of the housing units be affordable to households earning ≤80% AMI.
5. Mortgage to homeowners provided at current market rates and can be provided by developer or third party.
6. Homeowners have access to free pre- and post-purchase homeownership counseling

7. Homeowners may have access to other subsidies that can be layered with the NMTC structure, such as various energy tax credits and rebates, down-payment assistance, and other public and/or private funds.
8. All homes are new construction, ABC construction method, net zero.
9. City lots are provided for free and are considered "developable" lots at the time of conveyance to developer.

Figure 4 – Assumptions for example NMTC for Homeownership model

Assumptions		
Cost to Construct	$	220,000
Less net subsitdy per home	$	(48,077)
Cost to borrower	$	171,923

*This is affordable to four-person households at 50%, 60%, 80% AMI, assuming 40% debt-to-income ratio
**For each home in the Project to be mortgaged at $125,000, there remains a $35,000 gap

Sources	Pct of Total		
Net NMTC Equity	22%	$	48,077
Gap	21%	$	46,923
Mortgage Financing	57%	$	125,000
Total		$	220,000

Uses		
Total Development Cost	$	220,000

Note: WHEDA first-time LMI homebuyer mortgage loan program requires DTI under 50%

Benefits to the Homeowner of NMTC-financing for ABC, Net Zero Homeownership:

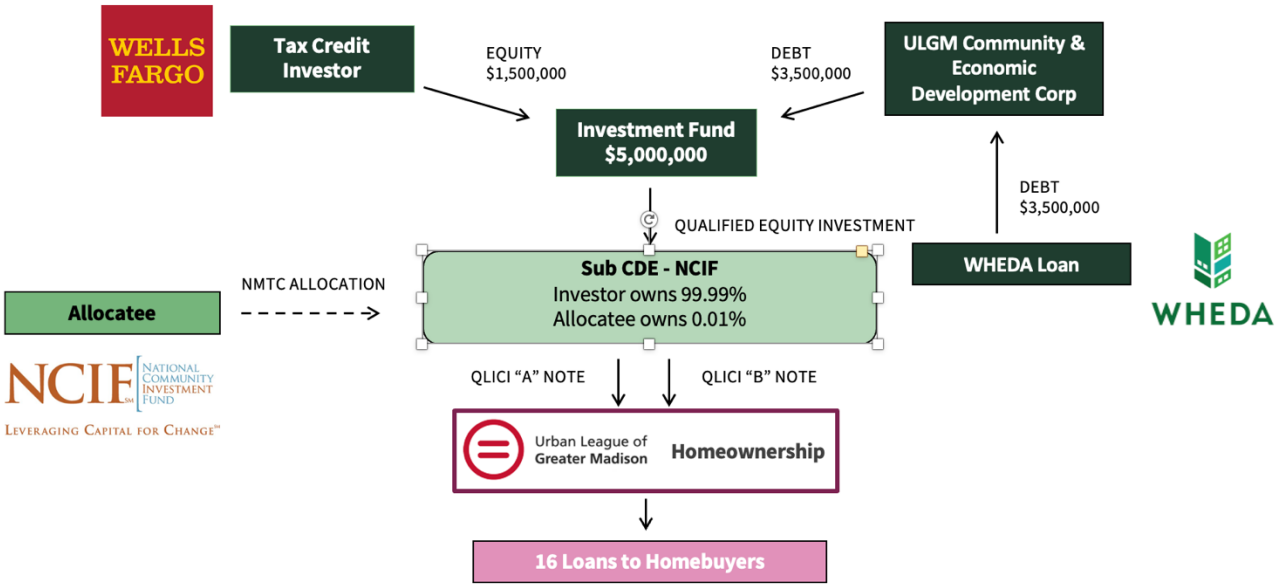
1. Access to affordable, flexible mortgage financing
2. It offers a low-cost source to fill the financing gap between what the homeowner can afford to pay for a mortgage and the cost of construction.
3. Connection to community of other NMTC-financed homebuyers (usually via the NMTC developer, such as Urban League or other nonprofit single-family for-sale housing developer).
4. Access to pre- and post-purchase counseling
5. Flexible terms like longer amortization and longer interest-only period
6. Higher loan-to-value ratios
7. Equity and wealth building opportunity

Case Studies – NMTC for Homeownership

ULGM Model

Urban League of Greater Madison used proceeds from a $5 million NMTC investment to acquire and renovate 16 homes in qualified low-income communities in Madison, WI. The Wisconsin Housing and Economic Development Authority (WHEDA), Wisconsin's housing finance authority, provided $3.5 million in low-cost, interest-only leverage debt coupled with $1.5 million in NMTC equity. The NMTC allocation was provided by National Community Investment Fund, a national CDE, and Wells Fargo purchased the $5 million in tax credits.

Figure 5 - ULGM Model for Homeownership
$5 million transaction, 16 homes



The NMTC financing allowed Urban League to provide affordable, interest-only mortgage financing to qualified homeowners. The NMTC financing allowed the Urban League to reduce the sale price to the homeowner by about $40,000 per home, so the average sale price to the homeowner was $218,750.

Urban League acquired the homes, managed the renovation, and then sold the homes to qualified homebuyers. Urban League also provided mortgage financing for the homes, lending directly to the homebuyers. The homes were all sold in 2020 and 2021 to eligible homebuyers. The homebuyer is required to pay interest-only for 7 years. At the end of 7 years, the homebuyer will refinance the loan with another lending institution and begin paying principal *and* interest. Given the assumed increase in the value of the home of 3% CAGR, the home will have increased significantly in value during the seven-year NMTC interest-only period, creating a favorable loan-to-value ratio when the homeowner seeks to refinance the project in year 7.

Key Outcomes:

- 16 homes were acquired and renovated in NMTC-qualified low-income communities throughout Madison, WI
- Renovation was managed by Amigo Construction, a minority-owned contractor, with collaboration from Operation Fresh Start, a nonprofit youth-build program.
- Each mortgage to the homeowner averaged $218,750.
- All of the homes were affordable to households earning 80% of the County Median Income for Dane County (2020)
- The homeowner paid an interest-only mortgage for seven years, averaging $638 / month in interest payments.
- Pre- and Post-purchase homeownership counseling provided by ULGM and other affiliates

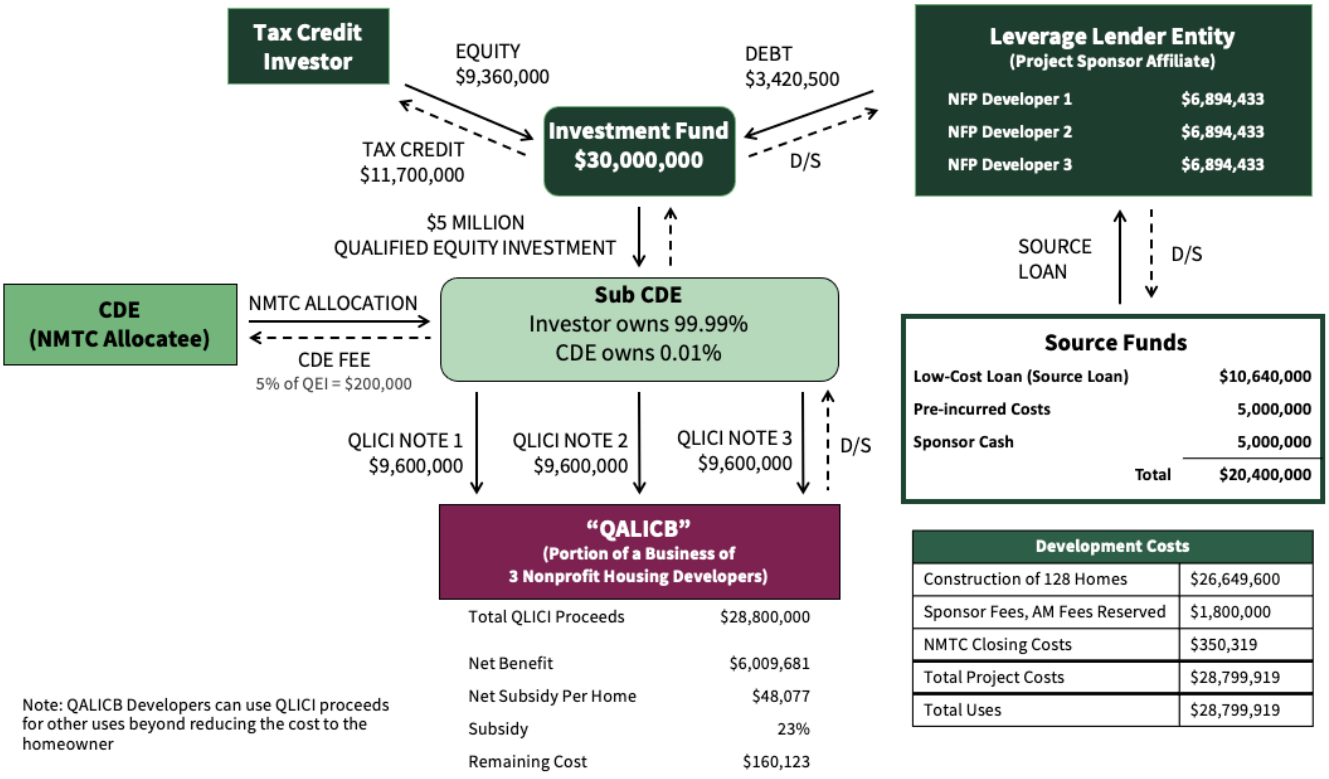
SmithNMTC Model – NMTC for Homeownership

In this model, several developers "bundle" their housing developments in one NMTC transaction. On a $30,000,000 NMTC financing, up to 128 homes are developed. Nonprofit developers each must bring leverage; assuming each deal is a $10M transaction, individual developers must bring $6,894,433 in leverage each. Like other NMTC transactions, the leverage loan must be fully funded the day the NMTC transaction closes.

The equity and the leverage are combined and provided to the nonprofit developer to develop the new, net zero houses. At the end of construction, the developers sell the homes to qualified buyers (income not to exceed 80%) who will be financed by a third-party financial institution. The developer will sell the house to the Borrower for $160,123, which includes a net subsidy per home of $48,077, offset by the NMTC B Note.

In the example below, each developer (listed in the yellow Leverage Lender Entity box) contributes equally to the leverage loan. The proceeds from the QLICI B Note ($9,600,000) are likewise equally divided amongst the three developers. Thus, each developer receives $3,200,000 (less transaction fees) to offset the cost of their homes.

Figure 6 – SmithNMTC Model for Homeownership.
$30 million transaction, 128 homes



Key distinctions between the ULGM model and the Smith NMTC model:

Transaction Size

The ULGM model may be used for smaller, one developer transactions with a minimum of $5 million in project costs. The Smith NMTC model generally aggregates several developers/housing developments in one NMTC closing. The Smith NMTC model can support deals of up to $30 million or more.

Benefit to Homebuyer

In the ULGM model, the Developer (Urban League) held and serviced the individual mortgages to the homeowners and structured the loans as interest only for seven years with a "sinking fund" feature where homeowners escrowed $200 - $300/month in a savings account that could be used to reduce principal in year seven or pay for repairs within the seven-year NMTC compliance period. With the Smith NMTC model, the developer can use the NMTC proceeds for anything the developer wishes; however, for this report, we show that the developer is selling the homes to low-

income households but is not holding the financing. The borrower is required to seek financing from a third-party financial institution.

Key Risks and Mitigants to consider for the NMTC For Homeownership Structure

Below is a sample of risks and mitigants within the structure. This does not include all the risks but merely highlights a few that should be considered. We recommend that you consult with an NMTC attorney for more information.

Cost

Putting an NMTC deal together is complex and can be costly. To mitigate costs, we recommend the Developer either bring on specialized consultants to assist in putting the transaction together and/or Developers with previous experience with the structure utilize it. The Community Development Alliance can add value in facilitating this transaction by working with its alliance members to bundle projects for a larger NMTC project and assistance in navigating various public and private leverage sources for the transaction.

Allocation Availability

It may be challenging to find NMTC allocation for the project. The U.S. Department of Treasury allocates $5 billion annually to NMTC allocation authority. To date, less than 1% of all allocation has been used for homeownership projects. One way to address this is to get the project in front of potential CDEs early to present the project and place the project in CDEs' pipelines.

Developer Strength

The Developer in the NMTC structure must continue to be an active qualified business for the compliance period. If the Developer ceases to be an active business within the seven-year compliance period, the Developer will be required to repay the tax credit to the investor. The best way to mitigate this is to work with experienced, well-capitalized developers.

Homebuyer Financial Strength

In the model where the homebuyer pays interest only for seven years and needs to refinance after year seven, there is some risk that the homebuyer would not be able to refinance. However, given the post-purchase counseling available to the homeowner and the reasonable assumption that the property will increase in value year over year, this risk is reduced.

Capital Magnet Fund (CMF)

Through the Capital Magnet Fund, the CDFI Fund provides competitively awarded grants to CDFIs and qualified nonprofit housing organizations. This funding comes via the government-sponsored enterprises Fannie Mae and Freddie Mac. CMF awards can finance affordable housing activities, related economic development activities, and community service facilities. Awardees can utilize funds to create financing tools such as loan loss reserves, revolving loan funds, risk-sharing loans, and loan guarantees. Organizations that receive Capital Magnet Fund awards are required to produce housing and community development investments at least ten times the award amount, generating a multiplier effect that means that more low-income people and low-income communities nationwide will have housing options within their financial reach.

Under the program, awardees must leverage their awards with other private and public investments by at least 10 to 1, guaranteeing that a minimum of $3.36 billion nationwide will be invested in eligible projects. U.S. Treasury officials reported this round of awards will finance eligible projects in low-income neighborhoods in 47 states, the District of Columbia, and Puerto Rico valued at about $12.4 billion[15].

There are two primary ways in which developers could access CMF funds for the Project

[15] *The U.S. Treasury awarded $7.5 million to WHEDA in 2022 (WHEDA Press Room, 2022)*

1. Work with a CMF awardee to identify how to bring CMF funds into the housing development financing stack. Wisconsin has at least two CMF awardees that serve the state, including WHEDA and Cinnaire. It is up to the awardee to use the award, whether it be for multi-family or single-family development. Typically, the CMF financing from a WHEDA or Cinnaire would be a lower-cost, more flexible loan to the project. It could be used for acquisition, construction, or possibly permanent financing. WHEDA generally works with banking partners who use CMF to provide lower-cost single-family mortgages.
2. CMF requirements state that the house must be affordable for 10 years. If the household sells the home within 10 years, it must sell it to a low-income household, and appreciation is limited by these affordability restrictions. As of this application's writing, WHEDA uses a small portion of its CMF award for homeownership. Cinnaire uses its CMF award for multi-family financing only.
3. A nonprofit development could apply for its own CMF award to be used in its projects. The CMF application is typically released in the fall of the year annually. While highly competitive, this would be a newer and innovative use of the CMF, particularly for the Milwaukee market.

Financing Programs for Low- and Moderate-Income (LMI) Homebuyers

WHEDA First Mortgage and Down Payment Assistance Programs

The most affordable financing option for LMI homebuyers for the Milwaukee modular net zero affordable homeownership plan may be the WHEDA First Time Homebuyer Program for LMI borrowers earning 60-80% of CMI. This mortgage lending program is complementary to the NMTC structure, the CMF funding, the energy efficiency rebates, and tax credits discussed in latter parts of this report.

WHEDA's first-time homebuyer mortgage loans rates are set 50 basis points (bps) lower than its conventional mortgage loan products as the first-time homebuyer capital is funded with tax-exempt single-family mortgage revenue bonds issued regularly by WHEDA. Loans are underwritten and originated by private lenders participating in WHEDA's program; loans are funded by WHEDA, private lenders take no credit risk, and earn an origination fee plus receive CRA credit.

WHEDA loans offer higher loan to value than conventional mortgage loans. WHEDA offers a loan to value (LTV) up to 97% (where the value is lesser than the purchase price or appraised value). Down payment assistance (DPA) is also available as a second lien mortgage loan, which provides up to 106% of the home value when combined with the first mortgage. The proceeds from the DPA loan (97-106% LTV), therefore, cover the down payment as well as closing costs, including lender costs ("points"). The DPA loan can be structured as a 0% interest rate loan, with no principal payments due until the maturity of the first mortgage loan (e.g., in 30 years, in the case of a 30-year first mortgage loan). WHEDA caps lender origination fees at 2.0% of the loan amount

The WHEDA program permits volumetric modular or stick-built home construction. Units can be 1-4 family buildings (i.e., 2-3 rental units permitted), or condo units. The borrower and all individuals living in the borrower's household must occupy unit as their primary residence.

This program has the potential to work very well with the goals of the project in terms of providing lower cost mortgage financing to first-time LMI homebuyers. WHEDA sells all its loans to Fannie Mae or are insured by FHA, and therefore, all WHEDA's underwriting requirements must include Fannie Mae's underwriting requirements. The following debt to income (DTI) and FICO score requirements, for example, are driven by Fannie Mae requirements:

1. Maximum DTI of 50%. This ratio is total monthly obligations (all monthly debts including loan payments) to gross monthly income. Monthly mortgage loan payment to gross monthly income will be considered, but the main ratio relied upon is total monthly debts/monthly gross income. This restriction implies for a borrower with a $40,000 gross income that a $125,000 loan amount (ignoring other monthly obligations), assuming 30-yr term/30-yr amortization and a 5.50% fixed rate would qualify. The monthly loan payment (ignoring mortgage insurance – see

below) is $710, and gross monthly income is $3,333, which equates to a 21% DTI. Note that depending upon LTV, FICO score, and amount of borrower cash contribution towards down payment, the required maximum DTI may be below 50%.
2. Down payment assistance (DPA). Fannie Mae requires DPI not to include certain closing costs and DPA not to exceed 103% LTV. However, WHEDA can use its own funds to fund such costs Fannie Mae does not permit and bring the total LTV to 106%.
3. Mortgage insurance is required where loans exceed 80% LTV. Mortgage insurance payment (which is based upon a percentage of loan amount) varies by LTV.

Fannie Mae Single-Family Green Mortgage-Backed Security (MBS) Program

Fannie Mae began issuing Single-Family Green MBS in April 2020 as an expansion of the company's Green Bond Program. The proceeds of this program are used to finance mortgage loans backed by properties awarded green building certifications when construction is completed. The minimum requirement is ENERGY STAR Homes Version 3.0 certification. Other certifications include Net Zero Energy, Passive House, Zero Energy Ready Home, Enterprise Green Communities Criteria, LEED Residential, and others. To secure this designation, all eligible loans sold to Fannie Mae by a lender must be identified as receiving, at a minimum, the ENERGY STAR certifications. Fannie Mae independently verifies the green building certification. Once the loan is acquired, Fannie Mae securitizes the loan into a fully guaranteed MBS and sells the MBS to the general MBS investor community. The proceeds from the sale of the MBS are used to fund the loan from the lender. This type of financing was developed to provide liquidity and enhanced value back to the lenders for new origination loans backed by green building certifications. The hope is that this value would be passed through to the borrower through energy savings and increase the incentive to builders to construct more energy-efficient homes.

For the ECO project, we would need to ensure that the houses were being built to the correct standard to qualify for these loans to be sold to Fannie Mae by the lender. The idea is that the lender would be more able and willing to lend for these certified homes because Fannie Mae can buy those loans and provide liquidity to the lender. This is an opportunity for ECO to engage financial institutions in the Project and educate them about selling these mortgages to Fannie Mae. It is important that these loans to LMI homeowners meet the general criteria described in the Fannie Mae Single-Family *Selling Guide*[16].

Process for project evaluation and selection of Green Building Certification Mortgage loans
To secure the Single-Family Green MBS designation on a Green Building Certification loan:
1. The delivered loan must conform to all requirements stated in Fannie Mae Single-Family *Selling Guide* and have obtained a certification that the related property meets or exceeds the national program requirements for ENERGY STAR[17] Certified Homes, Version 3.0.
2. The Lender must identify these loans upon delivery to Fannie Mae after locking the rate and closing the loan with the borrower.
3. Once the loan is delivered, Fannie Mae will independently validate the certification through a proprietary database developed to capture the approval of the Green Building Certification by the rater and a copy of the certification.
4. Failure to meet any of the above conditions will result in the inability of the loan to be pooled in a Single-Family Green MBS.

[16] *https://selling-guide.fanniemae.com/*
[17] *Energy Star is a program run by the U.S. Environmental Protection Agency and U.S. Department of Energy that promotes energy efficiency.*

Figure 7 – This table shows the difference between a traditional mortgage and a "green mortgage," which allows for a higher mortgage amount given that the total monthly housing cost for the homeowner is expected to be reduced significantly due to the net zero nature of the house design.

Standard Loan Option		**Green Loan Example**	
$125,000	Purchase Price	**$125,000**	Purchase Price
6.50%	Interest Rate	6.50%	Interest Rate
$6,250	5% Downpayment	$6,250	5% Downpayment
$118,750	Loan Amount	**$118,750**	Loan Amount
Monthly Costs		**Monthly Costs**	
$751	Monthly Mortgage Payment	$751	Monthly Mortgage Payment
$250	Utilities	$50	Reduced Utility bill
$250	Property Taxes	$250	Property Taxes
$80	Insurance	$80	Insurance
$60	Private Mortgage Ins	$60	Private Mortgage Ins
$1,391	Monthly Housing Cost	**$1,191**	Monthly Housing Cost
Annual Costs		**Annual Costs**	
$1,781	Monthly Housing Cost	**$1,581**	Monthly Housing Cost
12	x Months	12	x Months
$16,692	Annual Housing Cost for Household	**$14,292**	Annual Housing Cost for Household
3	33% Annual Income	3	33% Annual Income
$50,076	Annual Household income needed when Annual Housing Costs are 33%	**$42,876**	Annual Household income needed when Annual Housing Costs are 33%

*** With Zet Zero House/Green Loan, housing costs are lower, which allows lower income borrower an opportunity to purchase.

Homeowner Rebates and Tax Credits

Investment Tax Credit – Section 25D

The Inflation Reduction Act (IRA), passed this fall, is the landmark climate bill aimed at curbing inflation by reducing the deficit, lowering healthcare and prescription drug costs, and investing in domestic energy production while incentivizing clean energy.[18,19] The IRA invests $30 billion in clean energy tax credits to fund decarbonization and accelerate the production of clean energy products.[20] The IRA modifies and extends the investment tax credit (ITC) under Section 25D, which historically has supported investment in wind, solar, and other renewable energy infrastructure projects, and creates a "direct pay" cash payment allowing non-taxable entities to monetize these credits.[21] For projects developed in specific communities – including low-income communities and affordable housing – an additional 20% may be available. The IRA has also made these credits available for other zero-emission technologies, such as geothermal, nuclear power production, carbon dioxide sequestration, and clean hydrogen production.[22]

[18] *Inflation Reduction Act, H.R. 5376, 117th Cong. (2022).*

[19] *7.5 million more families will be able install solar on their roofs with a 30% tax credit, saving families at least $300 per year. (BY THE NUMBERS: The Inflation Reduction Act, 2022)*

[20] *Includes solar panels, batteries, wind turbines, and minerals processing. It has $10 billion in tax credits aimed at constructing clean technology manufacturing facilities to build clean energy products. (Yu, 2022)*

[21] *IRS guidance for direct pay option is forthcoming. (Congressional Research Service, 2022)*

[22] *Before the IRA, only homeowners and commercial entities with some tax liability could claim the tax credits when installing eligible technologies on a property or eligible facility. (Yañez-Barnuevo, 2022)*

Previously, tax-exempt organizations didn't have the tax liability necessary to utilize the Investment Tax Credit (ITC). In some states, tax-exempt entities could indirectly benefit from federal tax benefits related to solar by entering into complex tax equity financing structures or third-party ownership/power purchase agreements.[23]

With this new legislation, the ITC "direct pay" option will allow tax-exempt entities, such as affordable housing developers, religious entities, rural electric cooperatives, community facilities, municipalities, and tribal governments to receive the benefits of the ITC as an upfront rebate from the Department of the Treasury, in place of claiming the credit on their taxes. The "direct pay" option gives nonprofits the same financial incentives that companies and households with tax liability receive when investing in renewable energy without a complicated financing package or the hassle associated with third-party ownership.

Additional Tax Benefits for Environmental Justice Communities
Under the IRA, investing in low-income communities, tribal nations, or environmental justice communities (i.e., the communities most impacted by environmental harms) could add bonus percentage points to the base ITC tax credits. Nonprofit organizations in and serving environmental justice communities can claim these additional credits through the "direct pay" option.

The law also provides an additional 10% tax credit for solar and batteries in former fossil fuel regions known as "energy communities," which the IRA defines as:

- A brownfield site.
- An area where (at any time during the period beginning after December 31, 1999, had) where "0.17 percent or greater direct employment or at least 25 percent of local tax revenues [are] related to the extraction, processing, transport, or storage of coal, oil, or natural gas," and unemployment is at or above the national average in the previous year.
- A census tract in which after December 31, 1999, a coal mine has closed, or after December 31, 2009, a coal-fired electric generating unit has been retired, or which is directly adjoining to any census tract described in subclause."
- Projects built in these communities can claim this 10% bonus clean energy credit, provided they meet prevailing wage and apprenticeship requirements, aiming to mitigate the adverse economic effects of a decline in fossil fuel activities.

Expenses eligible for the ITC:

- Solar P.V. panels, inverters, racking, balance-of-system equipment[24].
- Concentrated solar power (CSP) equipment necessary to generate electricity, heat or cool a structure, or provide solar process heat.
- Installation costs and certain prorated indirect costs.
- Step-up transformers, circuit breakers, and surge arrestors.
- Energy storage devices that have a capacity rating of 5-kilowatt hours or greater (even if not charged with solar).

The cost of a roof installation is generally not eligible, except for incremental costs, or the amount over what you would have spent if the roof was not used for solar. These costs could include solar shingles, solar tiles, or the incremental cost of installing a reflective roof membrane that increases electricity generation.

Note on Homeowner Eligibility
This is a **tax credit for the homeowner directly**, so the homeowner must have enough income tax liability to be offset by this. These energy-related credits are nonrefundable. This means the credits may not exceed the tax you owe for the year. But you can carry forward any unused credits to

[23] *(Guide to the Federal Investment Tax Credit for Commercial Solar Photovoltaics, 2021)*
[24] No more than 20% of the eligible value of the solar system can be classified as used equipment. (Office of Energy Efficiency & Renewable Energy, n.d.)

reduce your taxes in future years. For example, if you qualify for a $7,500 credit but owe only $5,000 in income tax, you'll use $5,000 of your credit to reduce your taxes for the year to zero. You can use the remaining $2,500 to reduce your taxes the next year.

Figure 8 – The figure below, provided by the Department of Energy, provides a summary of the tax benefits associated with choosing either the ITC or the PTC for photovoltaic systems. **System upfront cost, capacity factor (i.e., net energy generation), and discount rate, make the ITC the best choice for residential projects.** Other types of renewable energy and storage technologies are also eligible for the ITC but are beyond the scope of this figure.

Summary of Investment Tax Credit (ITC) and Production Tax Credit (PTC) Values Over Time

			Start of Construction						
			2006 to 2019	2020 to 2021	2022	2023 to 2033	The later of 2034 (or two years after applicable year[a])	The later of 2035 (or three years after applicable year[a])	The later of 2036 (or four years after applicable year[a])
ITC	Full rate (if project meets labor requirements[b])	Base Credit	30%	26%	30%	30%	22.5%	15%	0%
		Domestic Content Bonus				10%	7.5%	5%	0%
		Energy Community Bonus				10%	7.5%	5%	0%
	Base rate (if project does not meet labor requirements[b])	Base Credit	30%	26%	6%	6%	4.5%	3%	0%
		Domestic Content Bonus				2%	1.5%	1%	0%
		Energy Community Bonus				2%	1.5%	1%	0%
	Low-income bonus (1.8 GW/yr cap)	<5 MW projects in LMI communities or Indian land				10%	10%	10%	10%
		Qualified low-income residential building project / Qualified low-income economic benefit project				20%	20%	20%	20%
PTC for 10 years ($2022)	Full rate (if project meets labor requirements[b])	Base Credit			2.6 ¢	2.6 ¢	2.0 ¢	1.3 ¢	0.0 ¢
		Domestic Content Bonus				0.3 ¢	0.2 ¢	0.1 ¢	0.0 ¢
		Energy Community Bonus				0.3 ¢	0.2 ¢	0.1 ¢	0.0 ¢
	Base rate (if project does not meet labor requirements[b])	Base Credit			0.5 ¢	0.5 ¢	0.4 ¢	0.3 ¢	0.0 ¢
		Domestic Content Bonus				0.1 ¢	0.0 ¢	0.0 ¢	0.0 ¢
		Energy Community Bonus				0.1 ¢	0.0 ¢	0.1 ¢	0.0 ¢

a "Applicable year" is defined as the later of (i) 2032 or (ii) the year the Treasury Secretary determines that there has been a 25% or more reduction in annual greenhouse gas emissions from the production of electricity in the United States as compared to the calendar year 2022.

b "Labor requirements" entail certain prevailing wage and apprenticeship conditions being met.

45L Tax Credit for New Energy Efficient Homes

In our project, the developer/builder, not the homeowner, would earn this tax credit, which is **$5,000** per unit, using the DOE Zero Energy Ready Homes program. The idea is that the developer would take this credit and then reduce the price of the cost of constructing the house. **To be eligible for this, HUD HOME block grant money must be used as a source**. The previously discussed Down Payment Assistance funding through HUD / WHEDA makes this achievable as an option. In addition, the developer must pay prevailing wages to be eligible for the $5,000 tax credit; otherwise, the tax credit is limited to $1,000.

High Efficiency Electric Homes Rebate (HEERHA)

For homeowners that earn less than 80% of CMI, this program provides a rebate for up to **$14,000** per home to cover up to 100% of the cost of the following items: heat pumps, heat pump water heaters, electric load service upgrade, electric wiring, insulation and air sealing and ventilation, and electric or induction stoves or heat pump dryers. This is a point-of-sale rebate that the developer would get, assuming the developer is purchasing these items, with the developer reducing the home sale price by the rebate amount. Each State energy office must implement a program to process and disburse rebates once U.S. DOE completes guidelines for HEERHA in winter 2023. Note Wisconsin must implement this program for the ECO Milwaukee project to get the federal rebates.

Whole Home Energy Performance Rebate

The ECO Milwaukee Project aims to build homes with energy usage savings of at least 45% lower than a conventional new home. The homeowner income must be below 80% of CMI for the maximum rebate, which is the lesser of 80% of the cost of energy efficiency measure of $8,000 per unit. A broad list of energy efficiency measures is covered; however, if the HEERHA electrification rebate is also taken, the measures eligible for the HOMES rebate must be different. Each State energy office must implement a program to process and disburse rebates once the U.S. Department of Energy (DOE) completes guidelines for HOMES in winter, 2023.

HUD Programs

Low-Income Housing Tax Credits Lease-to-Purchase

A lease purchase agreement in real estate is **a rent-to-own contract between a tenant and a landlord for the former to purchase the property at a later point in time**. The renter pays the seller an option fee at an agreed-upon purchase price, giving them exclusive rights to buy the property.

Conditions

- Must remain rentals for 15 years
- Rented to low-income tenants earning <60% CMI
- Vouchers can be used for rental & mortgage payments
- At year 16, the properties are sold to existing tenants.
- Remaining debt service on the property in year 15 allows it to sell at a price at which the new homeowners pay roughly the same monthly costs as they did when renting the units.
- Homeowners' total monthly housing costs after taking title must be less than or equal to their total monthly housing costs before taking title.
- Tends to be lower numbers of units 24 units or less has been the norm (due to the LIHTC Qualified Action Plan).

Other factors to consider

- Could give tenants a credit for every year they have resided in the unit. For example, a $1,000 per year reduction in the sale price up to $10,000 sale credit.
- IDAs can accompany to boost equity during the 15 years.
- Homes can be developed using green standards (E.g., Enterprise Community Partners' Green Communities)

- Finding an investor can be complicated.
- Elements of successful program (Cleveland Housing Network):
- Well-versed sales and lending team
- Comprehensive homeownership preparation program
- Expert property management,
- Asset management
- Property maintenance

Housing Choice Voucher Homeownership Program (Section 8 Lease-to-Purchase)

The Housing Choice Voucher (HCV) Homeownership Program ("Section 8") allows families that are assisted under the HCV program to use their voucher to buy a home and receive monthly assistance in meeting homeownership expenses. While the HCV homeownership regulations contemplate a down payment grant option (where the Public Housing Agency offers a single down payment assistance grant to the family instead of a monthly homeownership subsidy), funding has not been appropriated for this purpose this regulatory provision has never been implemented.

The HCV homeownership program is available only to families that have been admitted to the HCV program, and it is not offered by every Public Housing Agency (PHA). PHAs can determine whether to implement the HCV homeownership program in their jurisdictions.

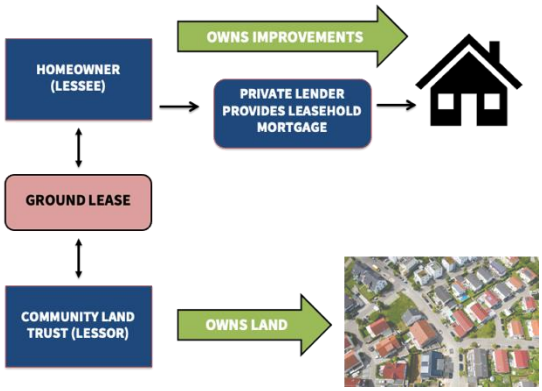
To participate in the HCV homeownership program, the HCV family must meet specific income and employment requirements (the employment requirement does not apply to elderly and disabled families), be a first-time homeowner as defined in the regulation, attend and satisfactorily complete the pre-assistance homeownership, and housing counseling program required by the PHA, and meet any additional eligibility requirements set by the PHA.

Community Land Trusts

CLTs can provide affordable housing for low- to moderate-income residents in two ways:

1. Homeownership: selling a house located on the land to a resident and leasing the land to the resident under a ground lease.
2. Rental: leasing a housing unit located on the land to the resident.

Figure 8 – Community Land Trust Structure



Under this model, homeowners still build equity, but usually not as much. Homeowners recapture investment, plus an inflation factor established by the CLT., enabling them to buy your next home in the conventional market. In fact, some CLT programs are specifically designed as stepping-stones.[25] Equity is still built at a lower rate than in the traditional market.

Key Trends in CLT Landscape:

- CLTs that started more than 10 years ago are primarily focused on residential, and when they engage in commercial properties, they mainly support residential properties. More newly formed CLTs are more holistic regarding community investment and have actively sought commercial opportunities. Those that focus on commercial ownership tend to engage the community using charettes[26]
- Housing affordability and stability prevent and end homelessness[27]

[25] *(How Community Landtrusts Work (an Affordable Home Option), 2022)*
[26] *https://pdfslide.us/documents/commercial-community-land-trusts.html*
[27] *(The Importance of Housing Affordability and Stability for Preventing and Ending Homelessness, 2019)*

- Although gentrification is a popular concept and a widespread process, empirical research about the relationship between gentrification and housing programs is rare or, if anything, has focused on a certain aspect of gentrification.[28] CLTs counteract gentrification in three ways:
    - Counteract displacement,
    - Facilitate the increase of affordability, and
    - Stabilize the speculative increase of property values in gentrified neighborhoods.
- CLTs are most impactful when they can steward land on behalf of the community for the uses desired by most residents. Examples of CLTs partnering with cities to vision, plan, and implement revitalization strategies that prevent displacement are evident in areas such as Buffalo and Houston.[29]
- CLTs have brought assets such as local pubs and bakeries back into use for community benefit, and economic benefits have begun to be realized for local communities.[30]

Figure 10 – Benefits of Community Land Trust Structure

CLT Benefit	How it Works
Provides long-term stability to neighborhoods, with resulting benefits to families and childhood education	Fixed asset appreciation guards against market volatility. CLTs can provide homebuyer education, support, and foreclosure prevention as part of the regular communication with its homeowners. Preventing and mitigating property tax and mortgage defaults is built into the relationship and agreement between CLT and homeowner. CLTs bridge the gap who cannot afford market-rate housing but do not qualify for low-income housing
Provides housing opportunities for working-class households	CLT targets 60-120% MFI for homeownership. CLT can provide home buying opportunities for income demographic that has scarce opportunities otherwise.
Upward mobility between low-income and market-rate housing	Modest increase in equity through fixed appreciation helps homeowners move beyond CLTs.
Permanently affordable housing, including future residents	CLT ground lease, often 99 years, moderates resale price and ensures income requirements in future resales

Tax Increment Financing

Tax Incremental Financing (TIF) can be used to incentivize nonprofit developers to build for-sale affordable housing by allowing the local government to redirect a portion of the increased property tax revenue generated by the new housing development towards financing the affordable housing project. The TIF district (TID) would be established to include the affordable housing development, and the additional property tax revenue generated by the increased property values would be set aside in a special fund to pay for eligible costs such as land acquisition, infrastructure improvements, and other related expenses.

Nonprofit developers can use TIF funding to lower the cost of building the affordable housing units, making them more accessible to low-income families and individuals. In return, the local government benefits from the increased tax revenue and the positive impact that affordable housing has on the community.

TIF is a valuable tool for incentivizing nonprofit developers to build for-sale affordable housing, as it provides a source of funding that can help make these projects financially feasible, while also supporting the local government's goal of promoting economic growth and revitalization.
In addition, the local government can offer other incentives, such as reduced property taxes, waived fees, and streamlined permitting processes, to encourage the nonprofit developer to build the

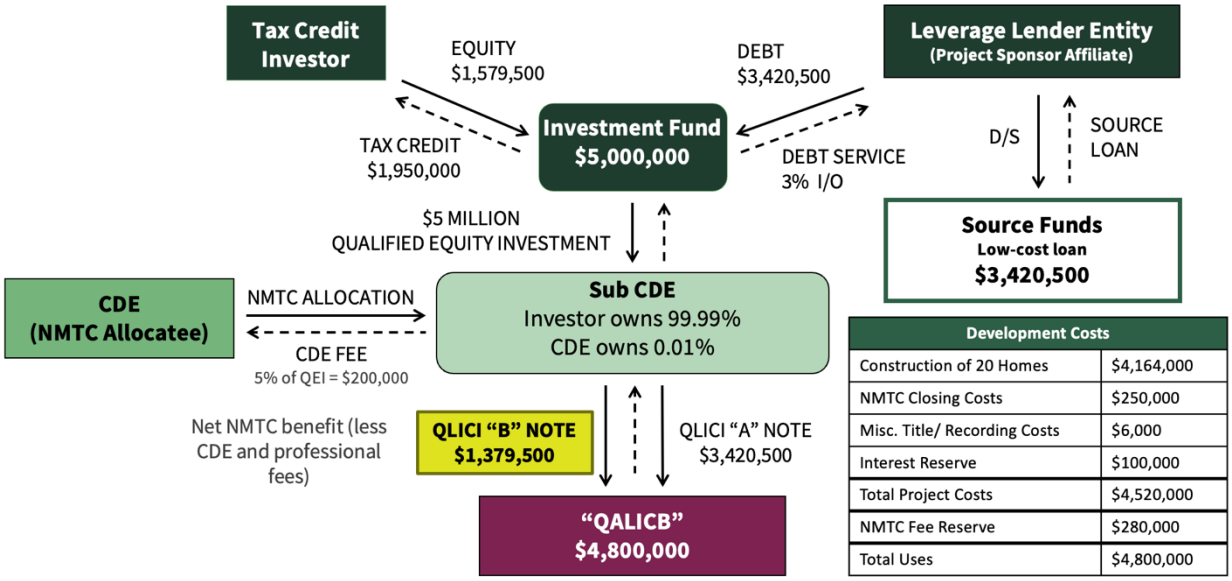
[28] *(Choi, 2015)*
[29] *(Velasco, 2020)*
[30] *(Moore, 20145)*

affordable housing units. By providing these incentives, the local government can help make the project financially feasible for the nonprofit developer, while also promoting the development of affordable housing in the community.

Summary & Recommendation

1. Recommended financing model: NMTC with IRA tax credits and rebates, TIF proceeds and LMI – First Time Home Buyer financing for borrower with Down Payment Assistance (WHEDA's LMI mortgage product) .
2. Recommended partners: Developer, homeownership counselor, financial institution providing homeowner mortgages

Figure 11 - Proposed NMTC Model
Hybrid of ULGM and SmithNMTC Models



Development Costs	
Construction of 20 Homes	$4,164,000
NMTC Closing Costs	$250,000
Misc. Title/ Recording Costs	$6,000
Interest Reserve	$100,000
Total Project Costs	$4,520,000
NMTC Fee Reserve	$280,000
Total Uses	$4,800,000

Notes on this model:

- This is for a single developer, optimally a nonprofit, to derive maximum benefit (subsidy) to the homeowner. However, the developer could also be a for-profit entity. Further, a nonprofit would not pay taxes on grants; in most cases, for-profit developers would count grants toward their gross income.
- This is a $5M financing structure, the minimum sum necessary to make an NMTC deal worthwhile from a cost of capital and fee generation perspective. For 100 homes would recommend a $25M NMTC transaction size.
- It is required that a CDE come into the deal which is willing to provide allocation for homeownership.
- This model assumes the homeowners are seeking financing from a third-party. We recommend the WHEDA LMI First Time Homebuyer financing product with down payment assistance.
- This model assumes homes are produced and set on the site for about $208,000 per home *before the tax credits and rebates.*
- The developer, optimally not-for-profit developers, would bring the "leverage" of the transaction, estimated at $3,420,500 in the model above. The source of this leverage varies but could include grants, cash on hand, HOME, CDBG, Trust Fund dollars, loans, etc. Ideally, the cost of capital for the leverage is as low as possible.
- At least 20% of the units must be affordable to households earning 80% CMI or less.
- Assumes that homeowners have access to free pre- and post-purchase homeownership counseling

- Assumes City lots are provided for free and are considered "developable" lots at the time of conveyance to developer. For the NMTC transaction, each of the lots must be located in a qualified census tract. It is possible that the lots could be located in a Tax Increment District (TID), thus allowing for Tax Increment Finance (TIF) to be part of the capital stack.
- Assume stackable rebates and credits from IRA incentives totaling **$27,000 per unit,** which the developer can take at either point of sale (for efficiency measures) or monetize (in the form of the 45L tax credit) during the development period. These can be structured into this NMTC transaction.

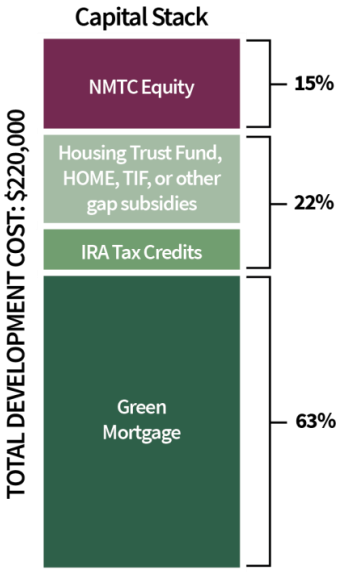
Sources	Pct of Total		
Net NMTC Equity	22%	$	48,077
Energy Credits	12%	$	27,000
Gap	9%	$	19,923
Mortgage Financing	57%	$	125,000
Total		$	220,000
Uses			
Total Development Cost		$	220,000

Figure 12 - Proposed Sources and Uses for City of Milwaukee Financing Plan

Recommended Structure and Discussion

After a thorough review of the various financing options presented in this report, we recommend the following structure for a few reasons: one, this structure provides the most significant opportunity to close the gap between what it costs to build a net-zero home and what an LMI household can pay for a home; two, the time between manufacturing, development, and sale to the homeowner is most expedient in this model; and three, the goals of the City of Milwaukee around climate, social justice, and LMI homeownership are addressed in this model.

1. Work with the NMTC facilitated financing as the structure through which the other sources flow including mortgage financing, TIF proceeds, HOME, IRA rebates, and other public and private subsidies.
2. Identify single-family affordable for-sale developers who can bring the required public and private leverage funds to the NMTC structure.
3. Have the developer either provide seller financing and hold their own mortgages (ULGM model) or work with a third-party mortgage lender (Smith NMTC model). If the latter, the third-party mortgage lender should consider packaging the loan and selling to Fannie Mae MBS Green product, or the third-party mortgage lender is the WHEDA LMI program or another financier willing to look at structuring this as a "green mortgage."
4. ECO Milwaukee should work with the housing developer to initiate an agreement that the sale price of the home to the homeowner will include a [1:1] reduction on the various developer/manufacturer rebates/credits for HEERHA and 45L.
5. Work with homeowner in pre-purchase counseling to access the other rebates and credits, including 25D and Whole Homes rebates.



Using the NMTC model each home is expected to generate up to $48,000 in net equity, depending on credit pricing and number of homes. With the various energy tax credits and rebates maximized and stacked (assuming homeowner can take the full 25D credit in one year) totaling $27,000 and then WHEDA LMI financing for $125,000, this leaves a gap of $19,923 to be covered in some way which could include WHEDA DPA, which is provided in the form of a loan.

Economy of Scale

The benefits of Advance Building Construction (ABC) make it a promising solution for building affordable, net-zero housing. By leveraging the cost savings associated with factory production, standardization, and improved resource utilization, ABC can provide lower-cost housing options compared to traditional "stick-built" homes.

Cost per home can be achieved, in part, by increasing the number of housing units produced. When building a higher number of affordable housing units using the proposed model, several economies of scale can be achieved:

1. Bulk Purchasing: By building more housing units, developers can take advantage of bulk purchasing discounts for materials, labor, and other construction-related expenses.
2. Efficient Site Development: Building a higher number of units on a single site can lead to more efficient site development, as infrastructure and site preparation costs can be spread out over a larger number of units.
3. Streamlined Processes: Building a larger number of units can also allow developers to streamline their processes, reducing the time and costs associated with permitting and construction.

ABC achieves lower housing costs compared through several means:

1. Factory Production: By producing components in a controlled factory environment, ABC can reduce the costs of materials, labor, and waste while improving quality control and reducing the risk of weather-related delays. This leads to a more efficient and cost-effective construction process.
2. Standardization: By standardizing designs, components, and construction techniques, ABC can reduce the costs of design, engineering, and construction. This can also lead to a more efficient construction process, as the construction team can become familiar with the standard designs and components, reducing the time and costs associated with on-site problem-solving.
3. Improved Resource Utilization: ABC can reduce the costs associated with downtime and lost productivity by improving resource utilization. For example, by using off-site pre-assembly, the construction team can work more efficiently, reducing the time and costs associated with on-site construction.
4. Reduced Waste: By reducing waste, ABC can also reduce the costs associated with construction. For example, by using just-in-time delivery, ABC can reduce the costs associated with storing and managing inventory on-site while reducing the amount of waste generated during construction.
5. Energy Efficiency: ABC allows for highly insulated, airtight, and well-sealed buildings, which can help to reduce energy consumption and improve overall energy efficiency. ABC can also make it easier to incorporate renewable energy technologies, such as solar panels, into the design and construction of the building.

Implementation Roadmap

1. The City of Milwaukee is releasing, in 2023, an RFP to identify developers and an ABC manufacturer for two pilot, net-zero homes. This process will assist in verifying the assumptions about the cost to produce a net zero home and the timeline for production and development.
2. Identify a project with 20+ parcels that qualifies for NMTC financing. It is envisioned that the Community Development Alliance will play a significant role in identifying developers, bunding projects, and assistance in navigating public and private sources.
3. Once a project (or several projects) are identified:
    a. Assemble capital stack, including the leverage sources which are anticipated to include public, private sources.
    b. Assemble parcels
    c. Create development budget (including any rebates passed along by manufacturer/developer)
    d. Identify developer
    e. Identify pre- and post-purchase homeownership counseling agencies
    f. Identify a third-party mortgage lender or determine if the developer will hold the loans in house.
4. Find CDE and Investor to provide and buy allocation, respectively.
5. Close the project.
6. Construct the homes.
7. Sell the homes to qualified buyers.
8. Continue with post-purchase counseling and ensure that all the tax credits come through for the homeowner.
9. Maintain compliance with NMTC Structure.
10. At year 7, unwind the NMTC structure.

Partners Needed for NMTC Deal

- Nonprofit housing developers that will continue to develop housing beyond this transaction (at least one home per year as a going concern)
- Sources of leverage funds (public, philanthropic, debt)
- Zero-cost land
- Producers of low-cost, high-quality net zero housing[31]
- Mortgage lenders for eventual homeowners or access to third-party lenders
- Pre- and Post-Purchase Homeownership Counselors

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